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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/628,618	07/28/2003	Hieronymus Andriessen	223592	5841
23460	7590	10/31/2005	EXAMINER	
LEYDIG VOIT & MAYER, LTD TWO PRUDENTIAL PLAZA, SUITE 4900 180 NORTH STETSON AVENUE CHICAGO, IL 60601-6780				XU, LING X
ART UNIT		PAPER NUMBER		
		1775		

DATE MAILED: 10/31/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/628,618	ANDRIESSEN, HIERONYMUS
	Examiner Ling X. Xu	Art Unit 1775

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 05 October 2005.
- 2a) This action is **FINAL**.                            2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1,2,4-22 and 25-29 is/are pending in the application.
  - 4a) Of the above claim(s) 4-11 is/are withdrawn from consideration.
- 5) Claim(s) 25-27 is/are allowed.
- 6) Claim(s) 1-2, 12-22 and 28-29 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.
 

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____

## DETAILED ACTION

### *Response to Amendment*

1. Applicant's amendment filed on 7/20/2005 has been entered.

### *Double Patenting*

2. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

Claims 14, 18-20 and 22 are provisionally rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 15 and 20 of copending Application No. 10/629,242. This is a provisional double patenting rejection since the conflicting claims have not in fact been patented.

Claim 15 of the copending application recites that same invention as that of recited in claims 14 and 22 of the present application. Claim 20 of the copending application recites that same invention as that of recited in claim 18-20 of the present application.

### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2, 12-13, 15-17, 21 and 28-29 stand rejected under 35 U.S.C. 102(b) as being anticipated by Vogel et al. (J. Phys. Chem. 1994, 98, p3183-3188) for the reasons of record set forth in the Office action dated 8/10/2005.

***Allowable Subject Matter***

4. Claims 25-27 are allowed.

***Response to Arguments***

5. Applicant's arguments filed 10/5/2005 have been fully considered but they are not persuasive.

Applicant argues that Vogel does not disclose the use of photovoltaic devices or phosphoric acid. Vogel discloses measuring photocurrents but not a photovoltaic device.

As stated in the prior Office action, Vogel clearly discloses the use of the sensitized nano-porous metal oxide as the electrode in the electrolyte containing  $\text{KH}_2\text{PO}_4/\text{K}_2\text{HPO}_4$  (left column, page 3184), the electrolyte solution contains both phosphate and phosphoric acid.

Vogel also discloses the use of the semiconductor nano-porous metal oxide as a light-converting electrode in an electrochemical cells to generate photocurrent, see abstract and Figures 1, 3 and 5, the electrochemical cells comprising semiconductor nano-porous metal oxide as light converting electrode and being used to generate photocurrent clearly indicates that the nano-porous metal oxide is used in an photovoltaic device.

Applicant also argues, with respect to claims 1 and 2, Vogel fails to disclose the use of the specific metal chalcogenides.

As stated in the prior Office action, Vogel discloses the sensitization of nano-porous metal oxide semiconductor such as titanium oxide, tin oxide, niobium oxide and tantalum oxide by quantum-sized cadmium sulfide, lead sulfide, or antimony sulfide (“metal chalcogenide nanoparticles”) (abstract).

*Conclusion*

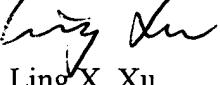
**6. THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ling X. Xu whose telephone number is 571-272-1546. The examiner can normally be reached on 8:00 - 4:30 Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah D. Jones can be reached on 571-272-1535. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Ling X. Xu  
Primary Examiner  
Art Unit 1775